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NEW SPECIES OF THE DIPTEROUS FAMILY
DOLICHOPODIDAE.

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IN identifying specimens of the family Dolichopodidae sent from New England and elsewhere, several new species have been recognized, the descriptions of which are here given.

Thinophilus ochrifacies, new species.

♂.—Length 2-2.7 mm. Face wide, ochre yellow. Palpi yellowish with thick yellow pollen, still they are more whitish on apical edge. Front blue or green on the vertex, sometimes wholly opaque with yellowish pollen. Occiput covered with yellowish pollen, its lower half with long white hairs; upper orbital cilia black. Antennae yellow; third joint brown, small; arista brown.

Dorsum of thorax and the abdomen greenish, the former with thick brown pollen; pleurae and coxae more black with white pollen. Abdomen with conspicuous black hairs. Hypopygium small, with yellow appendages extending forward under the abdomen (I think there are also brown appendages folded up close to the venter above the yellow ones).

Fore coxae more or less yellow, but greenish or brown at base, sometimes mostly infuscated; they are nearly bare. All femora and tibiae yellow. Middle tibiae with one small bristle above near the base and another near the middle; posterior pair with several small bristles. Tarsi yellow at base, usually brown toward their tips; joints of fore tarsi as 15-7-7-5-5; middle ones as 22-10-9-6-7; joints of hind pair as 14-16-10-7-8. Pulvilli very small, whitish. Calypters, their cilia and the halteres yellow.

Wings grayish, sometimes tinged with brown in front, without any trace of clouds on the cross-vein or last section of fourth vein; last section of fifth vein and cross-vein about as 26 to 8.

♀.—The face is about the same as in the male, still it appears more brown, it is wholly opaque with pollen; the palpi are longer than in the male and have the pollen more white. The general color is about the same, as is also the proportionate length of the tarsal joints; wings as in the male.

Described from four males and seven females. Two males and a female were taken at Cold Spring Harbor, Long Island, New York, September 5, by Mr. Burns; all the rest were taken by C. W. Johnson in Massachusetts: one male (holotype) at Cohasset, September 8; one male at Edgartown, June 29; two females at Chatham, July 1; and four females at Eastham, June 27.

Holotype and allotype in the collection of the Boston Society of Natural History.

Thinophilus viridifacies, new species.

♂.—Length 2.3 mm.; of female 2.7 mm. Face metallic green with thin white pollen, more yellowish white on the lower half. Palpi yellow with white pollen. Front dull green with a little white pollen. Occiput, dorsum of thorax, pleurae and abdomen white pollinose. Lower half of occiput with long white hairs. Antennae yellow; third joint small, brown, rounded but rather flattened in outline at tip.

Thorax coppery or green; abdomen green with bronze reflections and conspicuous black hairs. Hypopygium small; outer appendages long, yellow; there are also long blackish appendages above these next to the venter.

Fore coxae largely yellow, at least on apical half. Femora and tibiae yellow. Tarsi yellow only a little darkened at tip. Middle and hind tibiae each with several small bristles above, the former with one small bristle on lower posterior edge. All femora with several very small black bristles near the tip. Joints of fore tarsi as 13-7-7-5-6; of middle ones as 18-8-7-5-5; of hind pair as 14-13-8-7-8. Calypters, their cilia and the halteres pale yellow.

Wings a little grayish, veins brown; cross-vein and last section of fifth vein as 9 to 30.

♀.—Face metallic green, as in the male, its pollen very thin, white above, yellowish on lower part. Palpi appearing white from the thick white pollen; front as in the male, except that the pollen on the front and also on the dorsum of the thorax is more brown. The anterior femora are somewhat infuscated on the middle for half their length or more. Otherwise about as in the male.

Described from two pairs taken at Edgartown, Massachusetts, June 29, by C. W. Johnson. Holotype and allotype in the collection of the Boston Society of Natural History.

This differs from *Thinophilus prasinus* Johnson in having the face metallic, the whitish pollen scarcely dulling the ground-color, in being much smaller and in having the front more metallic; in a female paratype of *Thinophilus prasinus* that I have, the front is opaque with white pollen, but in this form the female has only a little brownish pollen on the front, and it has the fore femora somewhat infuscated, while in the female of *Thinophilus prasinus* the fore femora are not at all darkened. The new species, *Thinophilus ochrifacies*, differs from both of these species in having the face wholly opaque with thick yellowish or brownish-yellow pollen.

Gymnopternus singularis, new species.

♂.—Length 2.6 mm. Face not very wide for the genus, brownish; palpi and proboscis black. Front black with brown pollen. Antennae black; third joint about as long as wide, pointed at tip, nearly straight on upper edge beyond the nearly basal arista, rounded below on apical portion so as to form a point at upper corner. Orbital cilia wholly black.

Thorax green, dulled with brown pollen; prothorax with a large bristle above fore coxae; pleurae more black. Abdomen dark green with black hairs, quite shining. Hypopygium black, rather large; its lamellae yellow, narrow, rounded when applied to the end of the hypopygium, fringed with a few black hairs.

All coxae and femora black, their tips narrowly yellow. All tibiae yellow, still the tips of the posterior ones are black; middle and hind tibiae each with a bristle below near apical third. Fore and middle tarsi black from the tip of the first joint; hind tarsi wholly black. Joints of fore tarsi as 20-8-7-5-7;

those of middle ones as 30-17-12-8-8; hind tarsi with their joints as 24-25-18-12-8. Calypters and halteres yellow, the former with black cilia.

Wings grayish, darker in front; third and fourth veins about parallel beyond the cross-vein; last section of fifth vein about 33, of cross-vein about 11 fiftieths of a millimeter.

Described from two males taken at Kingston, Rhode Island, July, by John Barlow. Holotype in the collection of the Boston Society of Natural History.

Gymnopternus nigricoxa, new species.

♂.—Length 4 mm.; of wing 4.5 mm. Face wide for a male, white. Front thickly covered with white pollen, still the bluish-black ground-color can be seen through it when viewed in certain directions. Antennae wholly black; third joint about as long as wide, somewhat rounded at tip; arista nearly basal. Orbital cilia wholly black. Palpi and proboscis black.

Dorsum of thorax blue-black, sometimes almost violet, with brown pollen which does not dull it, except when viewed obliquely; pleurae more black with gray pollen. Abdomen dark green with whitish pollen on its sides. Hypopygium and its lamellae wholly black, the latter rather narrow, crescent-shaped, fringed with little black hairs; central filament yellowish.

All coxae and femora black, extreme tips of coxae, trochanters, and extreme base and broader tips of femora yellow. Anterior surface of fore and middle coxae covered with black hairs. All tibiae yellow, posterior pair black at tip for nearly one-fourth their length. Fore tibiae with the usual row of little bristles rather large and reaching nearly their whole length; there are several much longer bristles in the row. Middle tibiae with one large bristle near the middle of lower surface on anterior edge, and five large bristles above. Hind tibiae with five or six bristles above and one large one near apical fourth below. Fore and middle tarsi a little longer than their tibiae, black from the tip of the first joint; hind tarsi wholly deep black. Joints of fore tarsi as 35-16-12-9-7; of middle tarsi as 49-28-23-15-11; those of hind tarsi as 35-42-29-17-12. Calypters and halteres pale yellow, the former with black cilia.

Wings tinged with brown, which is slightly darker in front of third vein, the cross-vein narrowly clouded; third and fourth veins nearly parallel beyond the cross-vein, still the third is a little bent backward at tip; last section of fifth vein about one and a half times as long as the cross-vein.

♀.—The female agrees with the male in all color characters, in size and in the wing characters.

Described from one male (holotype) taken at Watchogue, Long Island, New York; one female (allotype) taken at Protection, Erie Co., New York, June 16; one male taken at Wells, New York, July 16, by D. B. Young; two males and two females taken in Massachusetts, one at Winchendon, July 5, one at Wellesley, July 18, one at Medford, June 23, and one at Saxonville, by A. P. Morse; one male taken at Joliette, Quebec, July 15.

Type in the author's collection.

Gymnopternus obtusicauda, new species.

♂.—Length 3.5 mm.; of wing the same. Face rather wide, grayish white. Front blackish, covered with white pollen which scarcely conceals the ground-color. Palpi and proboscis black. Antennae black; third joint as long as wide, rounded below, the tip being a little pointed at upper angle; arista inserted near the base. Orbital cilia wholly black.

Thorax and abdomen dark greenish; pleurae with gray pollen; hairs of the abdomen black, still sometimes they have a reddish appearance when viewed

in certain lights. Hypopygium rather large; its lamellae and inner appendages black, the lamellae large; when closely applied to the hypopygium they are cut off rather straight on apical margin so as to give the hypopygium a truncate appearance, the hairs on their margin small, black; central filament and its sheath testaceous black.

Fore coxae yellow, sometimes with a blackish spot at base on outer surface, anterior surface with small black hairs, middle coxae black with yellow tips, posterior pair largely yellow, their base blackish. All femora, tibiae and fore tarsi yellow, the latter slightly darker toward their tips; middle tarsi black from the tip of the first joint; hind tarsi infuscated almost to their base. The row of little bristles on fore tibiae quite conspicuous, but not reaching the base; middle tibiae with one large bristle on lower anterior edge, and about five on upper surface. Hind tibiae with six large bristles in two rows on upper surface and two or three small ones below, their tips very slightly darkened on inner side. Fore tarsi slightly longer than their tibiae, their joints as 28-12-10-7-8; joints of middle ones as 37-22-18-11-10; those of hind pair as 28-35-23-15-11. Calypters and halteres pale yellow, the former with black cilia.

Wings dark grayish, sometimes tinged a little with brown; tip of third vein bent backward so as to approach fourth a little; fourth vein ending in the apex of the wing; last section of fifth vein about one and three-fourths times as long as the cross-vein.

Described from one male (holotype) taken at Machias, Maine, July 20, by C. W. Johnson; one male taken at Hampton, New Hampshire, September 30, by S. A. Shaw; two males taken in New York, one at Old Forge, Long Lake, August 23, by Shannon and Sibley, and one at McLean Bogs, Tompkins Co., May 30, by M. D. Leonard.

Holotype in collection of the Boston Society of Natural History.

This differs from *Gymnopternus frequens* Loew in the form of the lamellae, those of the latter being much smaller and widest in the middle, making the hypopygium appear more pointed at tip; *Gymnopternus obtusicauda* is also a little larger and the posterior tarsi and wings are of a darker color.

Gymnopternus vernaculus, new species.

♂.—Length 3.7-4 mm.; of wing 4-4.5 mm. Face moderately wide, whitish. Front blackish, thickly covered with white pollen, which usually conceals the ground-color. Palpi and proboscis black. Antennae wholly black; third joint about as long as wide, pointed at tip. Orbital cilia wholly black.

Thorax and abdomen dark green, almost greenish black, shining; pleurae dulled with a little gray pollen. Hypopygium black; its lamellae black or testaceous, sometimes yellowish at base, narrow, fringed with short black hairs; when closely applied to the hypopygium they give its apex a somewhat obtuse appearance; the central filament and its sheath yellowish testaceous.

All coxae black almost to their tips, immature specimens with the anterior pair more yellowish brown; fore coxae with minute black hairs on the anterior surface and black bristles at tip. Trochanters, femora and tibiae wholly yellow; fore tibiae with the usual row of little bristles small, they do not reach the base, but where they end there are two larger bristles; middle and hind tibiae each with two conspicuous bristles on lower anterior edge, the former with about five, the latter with about seven large bristles on upper surface. Fore and middle tarsi yellow, becoming infuscated toward their tips; last joint black; they are a little longer than their tibiae. Hind tarsi more or less infuscated from the tip of the first joint, sometimes only the tips of the first two, and the whole of last three joints darkened. Joints of fore tarsi as

32-16-12-8-9; of middle ones as 44-25-19-14-12; those of hind tarsi as 31-38-26-17-13. Calypters and halteres pale yellow, the former with black cilia.

Wings dark grayish, scarcely darker in front; costa rather thick, especially from the tip of the first vein, which is about half as far from the root of the wing as the cross-vein; third vein distinctly bent backward at tip so as to approach fourth a little; fourth ending slightly before the apex of the wing; last section of fourth vein 45, of cross-vein 24 fiftieths of a millimeter.

Described from eight males from Erie Co., New York: five were taken at Lancaster, June 4; two at Colden, May 31; and one at Springville, June 7; also one male taken at Machias, Maine, July 22, by C. W. Johnson.

Holotype taken at Lancaster, New York, and in the author's collection.

This differs from *Gymnopternus chalcochrus* Loew in having the face white and the third vein bent a little backward at tip, while in that species the face is distinctly yellow and the third vein is almost exactly parallel with fourth from the cross-vein to its tip.

***Pelastoneurus cristatus*, new species.**

♂.—Length 3 mm.; of wing 2.4 mm. Face moderately wide, silvery white, still the green ground-color showing through on upper part. Palpi covered with white pollen. Front blue or violet, rather dull. Antennae yellow; third joint about as long as wide, rounded at tip, brownish; arista brown, feathered with rather long hairs on apical half. Orbital cilia wholly black.

Thorax with anterior half of dorsum dark green, dulled with brown pollen; posterior half of dorsum and the scutellum deep violet, shining; pleurae green with white pollen; there is scarcely a trace of the usual black stripe above the root of the wing. Abdomen green with conspicuous spots of white pollen on the sides of the segments; its hairs black. Hypopygium black; its basal portion small, about the size of the small lamellae, which are blackish, somewhat obcordate with the upper lobe the largest; they are covered with long hairs; there are two pair of inner appendages, one short, horn-like, pointed at tip, and bare; the other pair are long and slender with several branched bristles near the tip.

Fore coxae yellow, blackened a little at base, this infuscation extending nearly to the middle on outer surface, their anterior surface with a few minute black hairs, and a row of black bristles on apical half; prothorax with a large black bristle above the fore coxae. All femora and tibiae yellow, hind femora narrowly black at tip; hind tibiae sometimes slightly brownish at extreme base and tip. Fore tarsi yellow with last two joints brown, they have long tomentum on the lower surface; this is snow white and nearly as long as the thickness of the joints, giving the tarsi something of a compressed appearance. Middle and hind tarsi black from the tip of the first joint, still the posterior pair are blackish almost to their base. Joints of fore tarsi as 19-10-7-5-7; of middle ones as 30-45-13-9-9; and of hind ones as 21-32-24-16-12. Calypters and halteres yellow, cilia of the former black.

Wings tinged with brown; third vein bent backward at tip; last section of fourth vein bent near its middle, ending close to the tip of third vein; last section of fifth vein about one and a half times as long as the cross-vein.

Described from two males. The holotype was taken at Eastham, Massachusetts, June 27, by C. W. Johnson; the paratype was taken at Hampton, New Hampshire, August 8, 1923, by S. Albert Shaw.

Holotype in the collection of the Boston Society of Natural History.

This is the fourth species of the genus to be described with the remarkable branched bristles on the inner appendages of the hypopygium. *Pelastoneurus furcatus* Loew has the lamellae forked; *Pelastoneurus ramosus* Van Duzee has long sickle-shaped lamellae; in *Pelastoneurus arboreus* Van Duzee the lamellae are very large, irregularly elongate-oval, while in this form the lamellae are about as long as wide and somewhat obcordate in outline.